

Appln No. 10/646,905
Amdt date June 16, 2006
Reply to Office action of March 16, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An FM-CW radar system which frequency-modulates a voltage-controlled oscillator by applying thereto a modulating signal from a modulating signal generator, and which transmits a frequency-modulated wave by time division ON-OFF control and receives a reflected wave by time division ON-OFF control, ~~wherein~~

said system includes means for varying a frequency used to perform said time division ON-OFF control, and means for discriminating between a signal component varying in response to the variation of said frequency and a signal component not varying in response to the variation of said frequency, thereby discriminating a signal related to a target object from other signals.

said discriminating means discriminates a signal component varying in response to a variation of modulating skew as a signal component related to a target object, and discriminates a signal component not varying in response to a variation of modulating skew as a signal component not related to a target object.

2. (Original) An FM-CW radar system as claimed in claim 1, wherein said time division ON-OFF control is performed either when transmitting or when receiving.

3. (Original) An FM-CW radar system as claimed in claim 1, wherein said modulating signal is a signal in the form of a triangular wave, and said means for varying said transmission/reception switching frequency varies said frequency for each pair of upward and downward slopes of said triangular wave or every plurality of said pairs.

4. (Original) An FM-CW radar system as claimed in claim 1, wherein said modulating signal is a signal in the form of a triangular wave, and said means for varying said transmission/reception switching frequency varies said frequency for each of upward and downward slopes of said triangular wave.

5. (Original) An FM-CW radar system as claimed in claim 1, wherein said means for varying said transmission/reception switching frequency switches said frequency randomly.

6. (Currently Amended) An FM-CW radar system which frequency-modulates a voltage-controlled oscillator by applying thereto a modulating signal from a modulating signal generator, and which transmits a frequency-modulated wave and receives a reflected wave, wherein

said system is of a single-antenna type which switches between transmission and reception by time division, and includes means for varying a frequency used for said transmission/reception switching, and means for discriminating between a signal component varying in response to the variation of said frequency and a signal component not varying in response to the variation of said frequency, ~~thereby discriminating a signal related to a target object from other signals.~~

said discriminating means discriminates a signal component varying in response to a variation of modulating skew as a signal component related to a target object, and discriminates a signal component not varying in response to a variation of modulating skew as a signal component not related to a target object.

7. (Original) An FM-CW radar system as claimed in claim 6, wherein said modulating signal is a signal in the form of a triangular wave, and said means for varying said transmission/reception switching frequency varies said frequency for each pair of upward and downward slopes of said triangular wave or every plurality of said pairs.

8. (Original) An FM-CW radar system as claimed in claim 6, wherein said modulating signal is a signal in the form of a triangular wave, and said means for varying said transmission/reception switching frequency varies said frequency for each of upward and downward slopes of said triangular wave.

9. (Original) An FM-CW radar system as claimed in claim 6, wherein said means for varying said transmission/reception switching frequency switches said frequency randomly.

10. (Withdrawn) A heterodyne FM-CW radar system which frequency-modulates a voltage-controlled oscillator by applying thereto a modulating signal from a modulating signal generator, and which transmits a frequency-modulated wave and receives a reflected wave, wherein said system includes means for varying the frequency of a downconverting signal (IF signal), and means for discriminating a signal that varies in response to the variation of the frequency of said IF signal when said frequency is varied, thereby enabling a signal related to a target object from being discriminated from other signals.

11. (Withdrawn) A heterodyne FM-CW radar system as claimed in claim 10, wherein said modulating signal is a signal in the form of a triangular wave, and said means for varying the frequency of said IF signal varies said frequency for each pair of upward and downward slopes of said triangular wave or every plurality of said pairs.

12. (Withdrawn) A heterodyne FM-CW radar system as claimed in claim 10, wherein said modulating signal is a signal in the form of a triangular wave, and said means for varying the frequency of said IF signal varies said frequency for each of upward and downward slopes of said triangular wave.

13. (Currently Amended) An FM-CW radar system which frequency-modulates a voltage-controlled oscillator by applying thereto a modulating signal from a modulating signal

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generator, and which transmits a frequency-modulated wave by time division ON-OFF control and receives a reflected wave by time division ON-OFF control, ~~wherein~~

said system includes means for varying a pattern of said time division ON-OFF ~~control~~, control by switching between a first OFF period and a second OFF period which is longer than the first OFF period, thereby suppressing signal generation due to targets other than a target object by not receiving the reflected waves during the second OFF period.

14. - 16. (Canceled)

17. (Withdrawn) An FM-CW radar system which frequency-modulates a voltage-controlled oscillator by applying thereto a modulating signal from a modulating signal generator, and which transmits a frequency-modulated wave and receives a reflected wave, wherein said system includes means for making said frequency modulation vary nonlinearly and means for discriminating a frequency distribution of a received signal, and discriminates a target object based on said discriminated frequency distribution.

18. (Withdrawn) An FM-CW radar system as claimed in claim 17, wherein said frequency modulation varies nonlinearly in the form of an arc.